

IN THE CLAIMS

As shown below, and requested in the amendment filed March 26, 2003, please add new claims 19-20. Claims 1-16 and 18-20 are presented below.

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1. (Original) Transmission method for transmitting OFDM-signals, comprising the steps of
modulating said signals onto a plurality of subcarriers using a OFDM-modulation method,
transforming said modulated signals into the time domain, and
transmitting said signals
characterized in
that in said modulating step every M-th subcarrier is modulated with a signal, wherein M is an integer and $M \geq 2$.
 2. (Original) Transmission method according to claim 1,
characterized in,
that the not modulated subcarriers are set to zero.
 3. (Previously amended) Transmission method according to claim 1,
characterized in,
that $M=2$ and only subcarriers with even indices are modulated.
 4. (Previously amended) Transmission method according to claim 1,

characterized in,
that said modulation step comprises the steps of
generating integer values from 0 to L-1, wherein L is the number of available subcarriers,
and
modulating every M-th signal onto said subcarriers on the basis of said integer values.

5. (Original) Transmission apparatus for transmitting OFDM-signals, comprising:

modulation means (4) for modulating said signals onto a plurality of subcarriers using a
OFDM-modulation method,
transformation means (5) for transforming said modulated signals into the time domain,
and
transmission means for transmitting said signals
characterized in
that in said modulation means every M-th subcarrier is modulated, wherein M is an integer and
 $M \geq 2$.

6. (Original) Transmission apparatus according to claim 5,

characterized in,
that in said modulation means (4) the not modulated subcarriers are set to zero.

7. (Previously amended) Transmission apparatus according to claim 5,

characterized in,
that in said modulation means (4) $M = 2$ and only subcarriers with even indices are modulated.

8. (Previously amended) Transmission apparatus according to claim 5,

characterized in

that said modulation means (4) comprises means (10) for generating integer values from 0 to $L-1$, wherein L is the number of available subcarriers, whereby said modulation means (4) modulates every M -th signal onto said subcarriers on the basis of said integer values.

9. (Previously Amended) Receiving method for receiving OFDM-signals comprising M identical or respectively mirrored wave forms within one OFDM-timeburst, wherein M is an integer and $M \geq 2$, comprising the steps of

receiving said OFDM-signals,

correlating said waveforms to obtain time synchronization using $M-1$ correlators,

transforming said signals into the frequency domain, and

demodulating said signals.

10. (Original) Receiving method according to claim 9,

characterized in,

that in said correlation step said wave form parts are correlated on the basis of a delay value $L1 = S/M$ samples and averaged over $L2 \leq S/M$ samples, whereby S is the total number of samples in one OFDM-timeburst.

11. (Previously amended) Receiving method according to claim 9,

characterized in,

that after said correlation step a peak detection step is carried out to provide time synchronization for said transformation of said signals into the frequency domain.

12. (Previously amended) Receiving method according to claim 9,

characterized in,

that after said correlation step a frequency offset detection step is carried out to provide frequency synchronization for said transformation of said signals into the frequency domain.

13. (Previously amended) Receiving apparatus for receiving OFDM-signals comprising M identical or respectively mirrored wave forms within one OFDM-timeburst, wherein M is an integer and $M \geq 2$, comprising:

receiving means for receiving said OFDM-signals,

correlating means (28, 29, 30, 31) correlating said waveforms to obtain time synchronization, wherein said correlation means includes M-1 correlators,

synchronization, transformation means for transforming said signals into the frequency domain, and

demodulating said signals.

14. (Original) Receiving apparatus according to claim 13,

characterized in,

that in said correlation means (28, 29, 30, 31) said identical wave forms are correlated on the basis of a delay value $L1 = S/M$ and averaged over $L2 \leq S/M$ samples, whereby S is the total number of samples in one OFDM-timeburst.

15. (Previously amended) Receiving apparatus according to claim 13,
characterized in,
that after said correlation means (28, 29, 30, 31) a peak detection means (46) is provided for
providing time synchronization for said transformation of said signals into the frequency domain.

16. (Previously amended) Receiving apparatus according to claim 13,
characterized in,
that after said correlation means (28, 29, 30, 31) a frequency offset detection means (47) is
provided for providing frequency synchronization for said transformation of said signals into the
frequency domain.

17. (Canceled)

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F2 18. (Previously added) Transmission system for transmitting OFDM-signals, comprising:
a transmission apparatus including modulation means for modulating said signals onto a
plurality of subcarriers by OFDM-modulation, transformation means for transforming said
modulated signals into the time domain, and transmission means for transmitting said signals
characterized in that in said modulation means every M-th subcarrier is modulated, wherein M is
an integer greater than or equal to 2; and

a receiving apparatus for receiving said OFDM-signals having M identical or respectively
mirrored waveforms within one OFDM-timeburst, including receiving means for receiving said
OFDM-signals, correlation means for correlating said waveforms to obtain time synchronization,

transformation means for transforming said signals into the frequency domain, and demodulation means for demodulating said transformed signals.

19. (New) Transmission method according to claim 1, wherein:

said modulating step includes providing a switch control signal to a switch having a first input and a second input, wherein the first input receives a signal to be modulated onto a subcarrier and the second input receives a zero value signal.

20. (New) Transmission apparatus according to claim 5, wherein:

said modulation means includes a switch having a first input and a second input, wherein the first input receives a signal to be modulated onto a subcarrier and the second input receives a zero value signal.